REGION OF WATERLOO

PUBLIC HEALTH
Emergency Medical Services

TO: Chair Sean Strickland and Members of the Community Services Committee

DATE: April 9, 2013 **FILE CODE:** P06-80

SUBJECT: Improvements to EMS Service Delivery

RECOMMENDATION:

THAT the Regional Municipality of Waterloo approve the initiatives to improve the consistency of EMS Service Delivery, as outlined in Report PH-13-016, dated April 9, 2013

SUMMARY:

The Region of Waterloo is implementing a major internal initiative within the Emergency Medical Services (EMS) Division to improve the consistency of EMS service delivery.

The action plan has the identified goal of "Excellence in patient care", as defined by 3 elements:

- Delivering quality patient care every time (meet or exceed ALS and BLS standards)
- Accurate and complete documentation
- Providing paramedics with the resources they need (equipment and vehicles ready every time)

The Region of Waterloo is committed to providing the highest quality, consistent EMS service. It values transparency and prompt, effective action. This report is being shared with all EMS stakeholders in order to support this continuous improvement initiative.

REPORT:

1.0 Introduction

The Region of Waterloo is implementing a major initiative within the EMS Division to improve the consistency of EMS Service Delivery. The initiative has the identified goal of "Excellence in Patient Care". The key elements of this initiative are described in Section 2 of this report.

This initiative was launched to deal with a number of issues regarding a lack of consistency in the provision of EMS service. These issues were highlighted through an internal investigation and an external review completed recently by the Ministry of Health. The findings of the internal investigation and the Ministry of Health review are summarized in sections 3 and 4 of this report.

2.0 Improvements to EMS Service Delivery

An internal investigation and external review by the Ministry of Health recently identified a number of issues regarding a lack of consistency in EMS service delivery. To deal with these issues, the Region has developed and is implementing a significant initiative with the identified goal of ensuring "Excellence in Patient Care". There are 3 overall objectives of the plan, namely:

- Delivering quality patient care every time (meet or exceed Ministry of Health Advanced Life Support(ALS) and Basic Life Support(BLS) standards)
- Accurate and complete documentation
- Providing paramedics with the resources they need (equipment and vehicles ready every time)

A number of actions have already been implemented including the following:

- Following the departure of the Region's Chief of EMS on March 1, 2013 ROW EMS seconded two staff from Toronto EMS. A 6 month secondment agreement has now been finalized, ending September 20. Arthur Graham has been appointed Interim Director EMS and Sheryl Jackson has been appointed Special Advisor, Quality Assurance. Both individuals have extensive experience in EMS, management and quality assurance. They are ensuring smooth day to day operations during this transition period and have undertaken an assessment of quality assurance gaps.

- EMS management and front line staff have been engaged through regular communication from Dr Nolan. Some staff and management have also had the opportunity to provide feedback to Dr Nolan, Arthur Graham and Sheryl Jackson, in the preliminary assessments. Existing EMS management are collaborating with Arthur Graham, Sheryl Jackson and Dr Nolan to address the gaps identified and fulfill the legislated requirements. Clear expectations for accountability are being communicated to management staff.

- EMS Management has engaged with key local stakeholders, specifically the Base Hospital and CACC (Ambulance Dispatch Cambridge). They have started the dialogue to collaboratively make improvements to operational challenges and quality assurance issues.

- ROW EMS has initiated a focused process to meet identified quality assurance gaps, engaging all staff and management in the process. The outcome will be optimized quality assurance practices and successful completion of the certification review, as required through the routine recertification process. Preparations for the review are underway with assigned roles and responsibilities across the management team and throughout the organization. Team meetings will ensure all information is gathered and all resources are prepared for the Review process. Preparations also include a mock audit.

- Explicit actions related to improving employee engagement are being identified and undertaken. Senior team "ride out days" have been scheduled.

Over the medium term (within the next 3 to 6 months) further actions will include:

- The Region will initiate a recruitment process for a new Director of EMS

- The Region will engage expert consulting assistance to conduct an in-depth analysis of management structure and roles, and to make recommendations for optimization. There will also be a 3rd party random audit process by the consultant and a monitoring process established.

- A 3rd party audit of a sample of Ambulance Call Reports will be undertaken via contract by Ministry Review Team members. Feedback will be provided to individual paramedics, as appropriate.

- The Region will work with the Base Hospital to review the current Memorandum of Understanding, and roles and responsibilities with a view to optimizing quality assurance practices collaboratively.

- Dr. Nolan will provide regular progress reports to Council regarding the implementation of this action plan. The first progress report is planned for August.

Over the longer term (within the next 12 months) additional actions will include:

- Implement ongoing supports for organizational culture change
- Realign management roles and responsibilities as appropriate to optimize resources
- Ongoing quality assurance program will be established
- External monitoring to assist and support successful implementation of the action plan

This action plan has been received by the Ministry of Health and has been determined to be appropriate and acceptable (see Appendix A).

3.0 Internal Investigation

In July 2012 an ambulance crew was observed by a Supervisor not using its warning systems during a code 4 emergency call. A code 4 call is the most serious and urgent type of emergency call. The EMS Dispatch personnel in the Central Ambulance Control Centre (CACC) who receives the 911 call uses a Ministry of Health approved screening tool to determine which calls are code 4 and informs the paramedics who respond. Regional policy requires that paramedics use warning systems on all code 4 calls. Failure to use warning systems was in violation of both Region of Waterloo EMS Policy and the Patient Care and Transportation Standards under the Provincial Ambulance Act. Emergency warning systems include lights and sirens. Warning systems let people know an ambulance is coming and to clear the way. The Highway Traffic Act requires the use of warning systems when driving above the speed limit or crossing an intersection against the traffic lights.

As soon as the incident was identified by EMS management remedial action was taken, and an internal investigation was initiated. The immediate remedial actions included informing all staff that the behaviour was inappropriate and reinforcing relevant existing Regional policies.

The internal investigation involved comparing the tracking of warning system use in the EMS records with information from the Ministry of Health EMS Dispatch database and the EMS call report database. Calls were identified where warning systems were not used, when Regional policy required that they be used. It became apparent that this was not an isolated incident, contrary to clear EMS policy. A number of Regional paramedics were routinely making discretionary decisions not to use emergency warning systems based on their impressions of the severity of the call, in spite of the designation of the call as code 4 by the EMS Dispatch personnel. The paramedics were inconsistent in their practice of following or not following the policy regarding code 4 calls.

The internal investigation into the original incident is now complete and remedial actions have been taken. The internal investigation ultimately included a review of 2,103 code 4 calls which occurred from January to August of 2012. In total, 26 paramedics were disciplined. EMS Management has started regular monitoring to ensure the behaviour has ceased. Quality assurance activities for use of warning systems are ongoing.

Polling numerous services around the Province revealed none that were regularly monitoring emergency warning systems use. All had developed policies similar to ROW EMS that focused on controlling inappropriate warning systems use rather than ensuring staff used them on emergency calls. No service had procedures in place that would have detected the lack of proper use of warning systems.

External Investigation

The incident was reported to Regional Council in August of 2012 in caucus given the associated labour relations issues. Regional council and senior management had a number of concerns regarding this incident that required further investigation. An external review was determined to be an essential next step in order to answer these questions.

As required by regulation, the Region of Waterloo notified the Ministry of Health Emergency Health Services Branch, Investigation Services about this incident, and the Region's response. The Region also then requested that the Ministry expand the scope of their typical investigation to seek answers to a number of questions, including whether there were any negative impacts on patient health and safety.

The Ministry investigation involved reviewing a sample of the charts from the internal investigation, conducting patient care reviews, a site visit, and interviewing management staff and base hospital staff. It is worth noting that the charts reviewed by the Ministry are not a random sample of charts. Rather they were charts reviewed while investigating concerns about the inconsistent use of warning systems while responding to code 4 calls. Use of Emergency Warning Systems when responding to code 4 calls was the initial focus of the investigation. The ROW EMS quality assurance program and quality of patient care became the subsequent focus of the investigation.

The Ministry completed its investigation and delivered its final report to Region of Waterloo on March 8, 2013. The full report is included in Appendix B. Its main conclusions include the following :

- The management of the Region of Waterloo Emergency Medical Services is not ensuring patient care is consistently being provided and patient care is consistently being documented in accordance with the legislated requirements
- The management of the Region of Waterloo Emergency Medical Services is not ensuring that the paramedics are consistently complying with the direction issued by a communications officer with respect to the assignment of calls to ambulances as required
- The paramedics subject to the analysis were in contravention of legislation in that they did not consistently perform patient care or document patient contact and care as required by the *Ambulance* Act.

Specific examples in the sample of reports from the investigation reviewed by the Ministry include:

- Not consistently activating warnings systems on code 4 calls
- Not consistently documenting vital signs or administration of oxygen
- Walking patients to the stretcher, without documentation as to reason
- Failure to complete documentation within 24 hours of the event

The Ministry Investigation report did not provide specific recommendations as to how to address the problems it identified (as requested by the Region of Waterloo) due to the fact that it had assumed an enforcement role in the course of its investigation. Region of Waterloo's immediate action plan was developed and submitted in writing at the Ministry's request based on preliminary information about the report. It was submitted on March 7 and was deemed to be appropriate and acceptable by the Ministry on March 8 when the final report was issued to Region of Waterloo (see Appendix B).

Following the departure of the Region's Chief of EMS on March 1, 2013, the action plans were modified to include the request for assistance from the City of Toronto EMS.

The key elements of the March 7 plan included the direct involvement of Region of Waterloo senior staff in providing leadership to the response, and assembling an external team of experts to assess the situation, assist the ROW in responding to Ministry concerns, and to provide support for day to day operations. This team included consultants with expertise in EMS service delivery (Pomax), and

City of Toronto EMS management staff.

There was no evidence of patient harm in the sample of call reports reviewed by the Ministry of Health and Long-Term Care. However, the issues identified are serious and will continue be addressed to ensure ROW fulfills its role in ensuring proper patient care, documentation and quality assurance.

EMS Service Review:
The Ministry requires every EMS Service to be re-certified every 3 years. The last certification review for ROW EMS was successfully completed in September 2010. A regularly scheduled re-certification visit is required in order for ROW to be issued an Operating Certificate. The current Operating Certificate expires on September 24, 2013. Preparation for the re-certification process is underway, and is built into the action plan.

CORPORATE STRATEGIC PLAN:

EMS strives to decrease premature morbidity and mortality where possible through the delivery of its ambulance service, and contributes to the Strategic Focus area of fostering a safe, inclusive and caring community.

FINANCIAL IMPLICATIONS:

Two Toronto EMS management staff have been seconded to Region of Waterloo for a period of 6 months to serve as Interim Director and Special Advisor, Quality Assurance. These costs will be partially offset by the savings resulting from the vacancy in the director's position. It is projected that there will be an additional cost of up to $60,000 resulting from the secondment. The consulting firm Pomax has been engaged to do an assessment and provide recommendations regarding optimization of organizational structure and roles. The total cost of this work is estimated to be less than $ 75,000. These costs will be funded within the approved 2013 Public Health Department operating budget and will be reported though the Periodic Financial Reporting process.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Human Resources, Legal Services, Risk Management and the CAO's Office staff have been involved through various aspects of the investigation and follow-up. The Emergency Health Services Branch of the Ministry of Health and Long Term Care and the Centre for Paramedic Education and Research (Base Hospital) also participated in the investigation.

ATTACHMENTS:

Appendix A: Approval letter for Region of Waterloo Action Plan "Excellence in Patient Care",
Ministry of Health and Long Term Care, Emergency Health Services Branch
Investigation Services, March 28, 2013

Appendix B:
Cover letter and Investigation Report: Region of Waterloo Emergency Medical Services
Ministry of Health and Long Term Care, Emergency Health Services Branch
Investigation Services, March 8, 2013

PREPARED BY: *Dr Liana Nolan*, Commissioner/Medical Officer of Health

APPROVED BY: *Dr Liana Nolan*, Commissioner/Medical Officer of Health
Mike Murray, Chief Administrative Officer

Ministry of Health and Long-Term Care

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Ontario

Investigation Services file: 12IS-02-184

March 28, 2013

Dr. Liana Nolan
Commissioner / Medical Officer of Health
Region of Waterloo
99 Regina Street South
Waterloo ON N2J 4V3

Dear Dr. Nolan:

Thank you for your letter of today's date outlining the Region of Waterloo EMS Action Plan "Excellence in Patient Care".

Upon review of the plan and in consultation with Senior Management I would like to advise you that we find your plan appropriate and acceptable.

We look forward to continuing to receive progress reports.

If you require any assistance, please do not hesitate to contact me.

Sincerely,

Rick Brady

Rick Brady
Manager – Investigation Services

c: M. Vahaviolos, Sr. Field Manager Southwest Field Office, EHS Branch
M. Murray, Chief Administrative Officer, Region of Waterloo

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Investigation Services file: 12IS-02-184

March 8, 2013

Dr. Liana Nolan
Commissioner / Medical Officer of Health
Region of Waterloo
99 Regina Street South
Waterloo ON N2J 4V3

Dear Dr. Nolan:

Thank you for your letter of today's date outlining the Region of Waterloo's Short Term Action Plan to begin addressing the serious issues outlined in our investigation report.

Upon review of the plan and in consultation with Senior Management I would like to advise you that we find your plan appropriate and acceptable.

We look forward to obtaining your progress reports.

I have attached the finalized investigation report.

If you require any assistance, please do not hesitate to contact me.

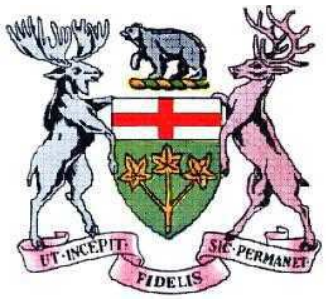
Sincerely,

Rick Brady

Rick Brady
Manager – Investigation Services

c: M. Vahaviolos, Sr. Field Manager Southwest Field Office, EHS Branch
M. Murray, Chief Administrative Officer, Region of Waterloo

Attachment



OCCURRENCE NUMBER 12IS-02-184

INVESTIGATION REPORT

Region of Waterloo Emergency Medical Services

MINISTRY OF HEALTH AND LONG-TERM CARE
EMERGENCY HEALTH SERVICES BRANCH
INVESTIGATION SERVICES
March 2013

THIS REPORT HAS BEEN PREPARED BY

INVESTIGATION SERVICES EMERGENCY HEALTH SERVICES BRANCH

MINISTRY OF HEALTH AND LONG-TERM CARE

AND IS AUTHORIZED FOR USE BY THE INTENDED RECIPIENTS

SERVICE:	Region of Waterloo Emergency Medical Services
INCIDENT LOCATION:	Region of Waterloo
TYPE OF OCCURRENCE:	Quality of ambulance service

INTRODUCTION

In July 2012 a Paramedic Supervisor employed by the Region of Waterloo Emergency Medical Services (RWEMS) observed an ambulance responding to a Code 4 (urgent) emergency request for ambulance service without the use of emergency warning systems, either lights or sirens, contrary to RWEMS policy and procedure.[1] The Supervisor subsequently checked the ambulance and found that the emergency warning systems on the ambulance were fully functional. When the paramedics were asked why they had not activated the emergency warning systems they said they had forgotten to do so.

RWEMS management commenced an internal investigation and found that the paramedics involved with this call had a history of similar behaviour on multiple emergency ambulance calls. Further investigation by RWEMS management revealed this type of behaviour was occurring with many RWEMS paramedics.

On September 10, 2012 the Ministry was notified of this matter and upon consultation with the Region of Waterloo's Chief Administrative Officer (CAO) and the Commissioner of Health the Ministry commenced an investigation.

The CAO advised that Regional Council was seeking answers to several questions with respect to the use of emergency warning systems, including the following:

- How could this incident have occurred? Why did management policies and practices not prevent this or detect it sooner? How do RWEMS P&P compare with typical EMS practices or best practices within comparable EMS services? (Do other EMS services have policies / procedures which could have prevented or detected this sooner?)

- What has been the impact of these practices? Were there any negative impacts on patient health and safety? Has this affected the Region's overall response time statistics?

LEGISLATED REQUIREMENTS of CERTIFIED LAND AMBULANCE SERVICES

In order to understand the accountabilities related to the findings of this investigation, it is important to have an understanding of municipal land ambulance responsibilities.

[1] Region of Waterloo EMS Policy 4.3 Response to EMS Incidents

These responsibilities are established by legislation and those that are most relevant to this investigation are outlined below.

1) Subsection 6 (1) (b) of the *Ambulance Act* (the Act) states in part that every upper-tier municipality (UTM) shall be responsible for ensuring the proper provision of land ambulance service in the municipality in accordance with the needs of persons in the municipality.

2) Subsection 3 (1) of Regulation 257//00 made under The Act requires that the operator of an ambulance service meets the requirements of the *Land Ambulance Certification Standards*.

3) The Region of Waterloo is the certified operator of land ambulance service for the municipality and operates RWEMS.

4) Subsections 11 (a), (b) and (d) of Regulation 257/00 states in part that the operator and the paramedics employed by the operator shall ensure that patient care is provided in accordance with the *Basic Life Support Patient Care Standards* (BLS Standards) and as required the *Advanced Life Support Patient Care Standards* (ALS Standards) as well as the additional patient care and transportation standards per the *Patient Care and Transportation Standards* (PCTS).

5) Subsection 11.1 of the Regulation states in part that the operator and every paramedic employed by the operator shall ensure that patient contact and care is documented in accordance with the requirements of the *Ontario Ambulance Documentation Standards* (Documentation Standards).

6) Part I Point 6 of the Documentation Standards states that information contained in reports made under this standard will be of a completeness and quality suitable for use as evidence in an investigation or legal proceeding.

7) Part IV of the Documentation Standards requires an ACR shall be completed for each request for ambulance service where a patient was assessed whether or not care and or transport was provided.

8) The purpose of the BLS Standards is to state the minimum acceptable level or range of BLS support of patient care performance expected of paramedics in all Ontario ambulance services.[2]

9) Point 1 Section N of the BLS Standards requires the paramedic to complete an ACR for each call type detailed in the MOH *Ambulance Call Report Completion Manual* (ACR Manual) in accordance with the procedures detailed in the manual.[3]

METHODOLOGY

Investigation Services utilized the standard investigative procedures routinely applied to investigate concerns about the provision of land ambulance services. The investigators

[2] BLS Standards Page 2 Purpose of Basic Life Support Patient Care Standards
[3] BLS Standards Part N Documentation of Patient Care

obtained reports and records, such as Ambulance Call Reports (ACR), from RWEMS and conducted in-depth interviews with relevant and available RWEMS personnel.

FINDINGS

The findings in this report have been organised into three main categories, those being Part 1- Quality of Patient Care, Part 2 - Region of Waterloo Quality Assurance Program, and Part 3 - Use of Emergency Warning Systems on Code 4 (life or limb threatening calls). Each of these categories includes the relevant findings, and a narrative about the importance of the related legislated standards.

Part 1 – Quality of Patient Care

A major focus of the investigation became determining whether patient care provided was provided in accordance with legislated standards. In order to make this determination a sample of 562 ACRs, provided by the management of RWEMS which they had identified for their internal investigation, were analysed.

Please note that ACRs are the major patient care records used by certified ambulance services and their completion in a full and accurate manner is essential for both the recording of patient care and the provision of continuity of care once ambulance patients are received by hospital emergency departments.

This sample represented the work of 130 paramedics, and comprised 3.43% of the Code 4 call volume experienced by RWEMS between January 12, 2012 and August 20, 2012. Additional demographics related to this sample are provided in Appendix A.

During the ACR analysis nothing was found to cause the Investigators to seek further medical data concerning a patient's outcome. The ACR analysis did identify that patient care was not being provided in accordance with the legislated Standards so it is possible a patient's original complaint was exacerbated.

Additionally, a sample of data from two similar land ambulance services was used in order to provide comparative information. Demographics related to this sample are provided in Appendix B.

Key Findings:

- The ACR records indicate that the patient care being provided by RWEMS paramedics is not consistently being performed in accordance with legislated Standards i.e. Subsections 11 (a) and (b) of Regulation 257/00 made under the *Ambulance Act.*

- The comparative service records indicate that the frequency with which RWEMS utilizes emergency return priorities suggests that RWEMS paramedics are using Code 1 return transport priorities to a significant degree.

- The ACR records indicate that the documentation of patient contact and care is not consistently being performed by RWEMS paramedics in accordance with legislated

Standards i.e. Subsection 11.1 of Regulation 257/00 made under the *Ambulance Act* and the high frequency of identified documentation issues calls into question the accuracy / integrity of the information contained in these medical legal documents.

A detailed description of the process used to arrive at these determinations is provided in Appendix A.

The legislated standards for patient care, record keeping, and transportation are established by expert emergency physicians and other key stakeholders, and represent a core responsibility for land ambulance services. The standards are carefully crafted to protect vulnerable patients who enter the health care system through the ambulance system.

Adherence to these standards by those entrusted with the care and transportation of the ill and injured is essential for patient safety and departing from these standards is unacceptable.

Part 2 – RWEMS Quality Assurance Program

A detailed review of the RWEMS Quality Assurance (QA) Program was undertaken. This included reviews of various documents and in-depth interviews with those responsible for the program. The RWEMS has a QA staff comprised of one manager and two supervisors.

Key Findings:

- On paper RWEMS has a QA program however RWEMS is not delivering this program in a manner to ensure patient care is consistently provided and documented in accordance with the legislated standards.

- RWEMS management is not ensuring that patient care is consistently being provided in accordance with the legislated Standards i.e. the requirements of Subsections 11 (a) {BLS Standards} and (b) {ALS Standards} of Regulation 257/00 made under the *Ambulance Act.*

- RWEMS management is not ensuring that patient contact and care is consistently being documented in accordance with the legislated Standards i.e. requirements of Subsection 11.1 {Documentation Standards} of Regulation 257/00 made under the *Ambulance Act.*

A description of how these findings were arrived at is provided in Appendix C.

In the area of emergency health services provided by land ambulance service, an organisation's Quality Assurance Program is essential for patient protection and safety**.** Management is responsible for implementing such a program and the absence of a QA program is unacceptable.

Part 3 - Use of Emergency Warning Systems when responding to Code 4 calls

The concern about the use of emergency warning systems was the precipitating event for this investigation.

As part of this investigation the following questions were asked:

- How could this incident have occurred? Why did management policies and practices not prevent this or detect it sooner? How do RWEMS P&P compare with typical EMS practices or best practices within comparable EMS services? (Do other EMS services have policies / procedures which could have prevented or detected this sooner?)

As outlined in Appendix D, sixteen (16) ambulance service operators were polled and it was learned that no ambulance service operator, as a matter of course, compared the documented use of emergency warning systems on an ACR in comparison to the information recorded by the Automatic Vehicle Locator (AVL) systems.

- What has been the impact of these practices? Were there any negative impacts on patient health and safety? Has this affected the Region's overall response time statistics?

During the ACR analysis nothing was found to cause the Investigators to seek further medical data concerning a patient's outcome. The ACR analysis did identify that patient care was not consistently being provided in accordance with the legislated Standards so it is possible a patient's original complaint was exacerbated.

Land ambulance vehicles are equipped with these systems, comprised of sirens and emergency lights, in order to provide emergency response and transport. Paramedics are expected to use these systems in a safe and effective manner and the use of these systems is coordinated with legislation such as the *Highway Traffic Act* which allows ambulance vehicles lawful exceptions to traffic regulations.

The use of these emergency warning systems is intended to assist with the provision of emergency medical assistance to the acutely ill and injured in as short a time as is safely possible.

Key Findings:

A review of relevant ACR records, provided by the management of RWEMS which they had identified for their internal investigation, identified the following:

- 58.94% of the ACRs analyzed identified that the information documented on the forms was false.

- Approximately 3% of the ACRs analyzed indicated the paramedics were dispatched on a Code 3 call when in fact they had been dispatched on a Code 4 call, indicating the information on these ACRs was false.

- 15.82% of the ACRs analyzed indicated that the response time to the scene for Code 4 calls was not appropriate.

- Of sixteen (16) other certified operators surveyed on the use of emergency warning systems 100% did not as a matter of routine verify documented use of emergency warning systems with the AVL data.

A description of how these findings were arrived at is provided in Appendix D.

Warning systems are provided on ambulance vehicles to support the care and transportation of those patients for whom time is an important factor in their clinical outcomes.

CONCLUSIONS

Given the important findings identified in this investigation, the following conclusions are provided:

- The management of the Region of Waterloo Emergency Medical Services is not ensuring patient care is consistently being provided in accordance with the requirements of the *Basic Life Support Patient Care Standards* and therefore is in contravention of Subsection 11 (a) of Regulation 257/00.

- The management of the Region of Waterloo Emergency Medical Services is not ensuring patient care is consistently being provided in accordance with the requirements of the *Advanced Life Support Patient Care Standards* and is therefore in contravention of Subsection 11 (b) of Regulation 257/00.

- The management of the Region of Waterloo Emergency Medical Services is not ensuring that patient contact and care is consistently being documented in accordance with the requirements of the *Ambulance Service Documentation Standards* and is therefore in contravention of Subsection 11.1 of Regulation 257/00.

- The management of the Region of Waterloo Emergency Medical Services is not ensuring that the paramedics employed by the Region of Waterloo Emergency Medical Services are consistently complying with the direction or instruction issued by a communications officer with respect to the assignment of calls to ambulances as required Point (a) of the Patient Transport section of the *Ambulance Service Patient Care and Transportation Standards* and are therefore in contravention of Subsection 11 (c) of Regulation 257/00.

- The Region of Waterloo Emergency Medical Services has not ensured compliance with Part III Subsections (a), (h) and (r) of the *Land Ambulance Certification Standard*, which requires the operator to ensure patient care is being provided in accordance with the legislated standards and paramedics follow the direction of a communications officer.

- The paramedics subject to the ACR analysis were in contravention of Subsections 11 (a), (b) and 11.1 of Regulation 257/00 in that they did not consistently perform patient care or document patient contact and care as required by the *Ambulance* Act.

APPENDIX A – Part 1 Quality of Patient Care

- The BLS Standards contains the required procedures and steps to be followed by paramedics when assessing, treating and transporting patients. The standards set forth the requirements for primary and secondary assessments, standards for the use of oxygen, load and go, as well as medical, trauma, obstetrical, geriatric and pediatric categories. The BLS Standards also contain the Paramedic Conduct Standard.

- The Paramedic Conduct Standard states in part that the paramedic will observe standards, policies, procedures, protocols and medical directives and will discharge their duties with honesty, diligence, efficiency and integrity.[4]

- The Paramedic Conduct Standard states in part that behaviour which is unacceptable to the practice of a paramedic includes falsification of medical records, refusing or neglecting to serve citizens requiring services which are a part of the normal performance of their duties given their current certification status and any other conduct unbecoming of a practicing paramedic.

- Point 14 Part A of the BLS Standards General Standards of Care states the paramedic will secure, lift and carry patients using appropriate methods and devices.

- Point 1 Part B Patient Assessment General Principles of the BLS Standards General Standards of Care states the paramedic will on all scene calls, regardless of dispatch priority coding, assume the existence of serious, potentially life, limb and / or function threatening conditions until assessment indicates otherwise.

- Point 9 Part G Patient Management of the BLS Standards General Standards of Care states in part the paramedic will secure, lift and carry the patient to and from the ambulance, and if the patient refuses to be carried, attempt to convince the patient to be carried, and if the patient walks or is walked to the ambulance, document specific reasons.

- Part I Patient Refusal of Treatment and/or Transport of the BLS Standards General Standards of Care outlines all steps a paramedic will follow if a patient refuses any proposed treatment and or treatment and transport, and these steps include ensuring the patient is fully aware of any possible negative impact of the refusal, ensuring the patient has the capacity to make a refusal and documenting the refusal on the ACR which includes the patient's signature.[5]

- The ALS Standards Consent to Treatment and Capacity Assessment also outlines the steps paramedics are to follow when dealing with a patient's decision to refuse treatment. This section of the ALS Standards also requires the paramedics to comply with the refusal section of the BLS Standards.[6]

[4] BLS Standards Paramedic Conduct Standard Part 2 Paramedic Conduct
[5] BLS Standards General Standards of Care Part I Patient Refusal of Treatment and/or Transport Pages 1-13 and 1-14
[6] ALS Standards Introduction Pages 5 and 6

- The ALS Standards Comprehensive Care states in part that when initiating and continuing treatment per these standards a paramedic must ensure that the patient simultaneously receives care in accordance with the BLS Standards.[7]

- The ALS Standards Responsibility for Care states in part that the highest level paramedic is the ultimate patient care authority and while on scene the highest level paramedic shall assess the patient and make a decision on the level of care required and the level of paramedic required for the care of the patient. The highest level paramedic is also responsible for determining the level of care the patient is to receive during transportation.[8]

- The BLS Standards General Standard of Care (N) Documentation of Patient Care states in part if minimum required assessments and or interventions are not carried out, document specific reasons on the ACR or ensure that routine documentation clearly reflects the situation at scene.

The results of the analysis of the 562 ACRs provided by the management of RWEMS which they had identified for their internal investigation is as follows:

ITEM	# OF CALLS	% OF TOTAL
ACP / PCP crew configuration	511	90.93
PCP / PCP crew configuration	51	9.07
No ALS assessment documented*	284	55.58
No BLS assessment documented*	89	15.84
No vital signs documented*	6	1.07
Only one set of vital signs documented*	67	11.92
Patient walked - no appropriate documentation*	95	20.08
No oxygen administered when required by patient's condition*	46	9.7
Administration of oxygen inconsistent with the patient's condition*	21	4.4
No spinal immobilization administered when required by patient condition*	36	7.6
Transport position not documented*	44	9.3
No controlled acts performed when apparently required*	51	10.78
Original chief complaint chest pain (49 calls) final problem other*	21	42.86
Patient transported in Jump Seat without appropriate documentation*	40	8.46
No patient transported* **	92	16.37
Transport Code 4 (urgent)[9]	22	4.65
Transport Code 3 (prompt)	324	68.50
Transport Code 1 (deferrable)	127	26.85
Transport CTAS 1 (Resuscitation)	7	1.48
Transport CTAS 2 (Emergent)	55	11.63
Transport CTAS 3 (Urgent)	266	56.24
Transport CTAS 4 / 5 (Less Urgent / Non Urgent)	149	31.50

[7] ALS Standards Introduction Page 7
[8] ALS Standards Introduction Page 10
[9] Total patients transported 473 of 562

* This star identifies deficiencies contrary to the legislated patient care standards as contained in Appendix A.

** Few ACRs contained patient' signatures for refusing transport. RWEMS paramedics can use a paper based refusal form and a random sampling was requested and obtained identifying the patient's did sign refusals. The paper based form meets the requirements of the Documentation Standards, though it is maintained separately from the ACR.

APPENDIX B Part 1 Quality of Patient Care Priority Return Codes

An analysis of the ACRs to determine the appropriateness of the Code 4, Code 3 and Code 1 returns was conducted with the following results:

* NOTE: the integrity of the information documented on the ACRs is questionable for accuracy.

Code 4 returns originally showed 22; analysis based on the BLS Standards where a Code 4 return was required identified the total should have been 52.

Code 3 returns originally showed 324; analysis based on the documented Chief Complaint and Final Problem identified the total should have been 336.

(Code 1 returns originally showed 127; analysis based on the documented Chief Complaint and Final Problem identified 12 should have been Code 3 for a Code 1 total of 115.)

In comparison data[10] was obtained for two (2) other ambulance services, based upon 2011 data;

Service A – approximately 2,738 Code 4 calls per month with approximately 270 full and part time paramedics (no ACPs):

Code 4 returns – 20%
Code 3 returns – 52%
Code 1 returns – 10%

Service B – approximately 5,182 Code 4 calls per month with approximately 412 full and part time ACP / PCP paramedics:

Code 4 returns – 12%
Code 3 returns – 65%
Code 1 returns – 2.5%

Cambridge CACC is providing dispatch services in compliance with the use of the Dispatch Priority Card Index System (DPCI II) to RWEMS in regards to the accuracy of the Call Taking and Dispatching for emergency requests for emergency ambulance service.

[10] Sunnybrook – Osler Centre for Prehospital Care

APPENDIX C – Part 2 RWEMS Quality Assurance Program

1) The certified operator of an ambulance service is required to ensure that patient care and the documentation of said care is provided in accordance with the legislated standards per Part V of Regulation 257/00. In order to comply with this requirement a service needs to have a Quality Assurance (QA) program in place.

2) According to the RWEMS Manager Training and Quality Programs the RWEMS QA program consists of QA staff going on paramedic ride outs, random on scene evaluations by operations supervisors as well as internal audits and Hamilton Health Sciences Center for Paramedic Education and Research (CPER) audits of electronic Ambulance Call Reports (eACR).

3) The RWEMS QA department consists of the Manager Training and Quality Programs and two Operations Professional Practice Supervisors. The program is supported by technical and administrative support staff.

4) Of the three QA staff two (2) are trained and worked at the ACP level and all three (3) have on road paramedic experience and participate in continual medical training.

5) During his interview the RWEMS Manager Training and Quality Programs said paramedic ride outs and supervisor on scene evaluations are rarely accomplished due to his departments work load and the current RWEMS staffing of having only one (1) on road Operations Supervisor per twelve (12) hour shift.

6) The RWEMS Director said their QA program relies heavily on the eACR audits by the QA staff and where applicable CPER to ensure compliance with the BLS/ALS and Documentation Standards.

7) The Land Ambulance Service Certifications Standards Part III Operational Certification Criteria states in part for persons seeking to be certified or recertified to operate an ambulance service they must ensure that a valid agreement is in effect between the applicant/operator and the designated Base Hospital Program for the delegation controlled acts by paramedics employed by the applicant/operator.[11]

8) Prior to July 20, 2012 RWEMS and CPER were mutually operating under the terms of a previous agreement with the Cambridge Base Hospital Program (CBH) who would randomly audit RWEMS eACRs for compliance with the ALS Standards.

9) On July 20, 2012 the RWEMS Director signed a Memorandum of Understanding (MOU) with CPER.

10) Under the MOU CPER agreed it will '*develop and implement a continuous quality improvement program to monitor and evaluate paramedic activities related to the performance of paramedics as per legislated requirements under the governing Acts and associated regulations and standards, as amended from time to time; through the following activities;*

[11] Land Ambulance Service Certification Standard III Operational Certification Criteria (l)

- *Monitoring the delivery of care as per the ALS Patient Care Standards and other patient care activities through statistical process control, chart audits, observation ride outs, outcome studies, and error and "near-miss" reporting*.'

11) Under the MOU CPER agreed that the '*Service Provider will notify the Base Hospital of deficiencies in ACR patient care documentation.*

12) During his interview the CPER Regional Program Director said he could not recall RWEMS notifying them of any audited deficiencies in ACR patient care documentation.

13) Under 7(b) of the MOU CPER agrees '*if requested by the Service Provider, and agreed to by the Base Hospital, the Base Hospital will develop and implement a continuous quality improvement program to monitor and evaluate paramedic activities related to the performance of Basic Life Support (as described in the provincial issued BLS Standards) through the following activities:*

- *Monitoring the delivery of BLS and other patient care activities through statistical process control, chart audits, observation ride outs, outcome studies, and error and "near-miss" reporting.*
- *Develop a continuing medical education program to advance the professional development of individuals performing BLS skills*.

(i). *It is understood that the Service Provider may request only a portion of BLS call activities be implemented by the Base Hospital*

It is agreed that the cost of implementing 7(d) will be borne by the Service Provider via a transfer of funds to the Base Hospital, as determined by the Base Hospital on a cost recovery basis.'

14) The RWEMS Director said they do not use CPER for BLS assessment per section 7 (b) of the MOU.

15) The RWEMS Director said as per their signed agreement he expected CPER would provide them with at least a bi-yearly report identifying what audits were performed and the outcomes of those audits but to this date CPER has not fulfilled his expectations.

16) The July 20, 2012 MOU does not contain a clause obligating CPER to provide RWEMS with any reports.

17) According to the CPER Regional Program Director they do not provide yearly reports but they copy the RWEMS Manager Training and Quality Programs on any emails they send to RWEMS paramedics when:

- CPER has identified issues through the audit process that require clarification by the paramedic
- Paramedics have failed to respond within two weeks of CPER notification
- The paramedic has self reported an issue to CPER

- Any investigation undertaken by CPER pertaining to a complaint pertinent to RWEMS

According to CPER they notify RWEMS within forty-eight (48) hours of any self reported issues.

18) Since January 16, 2012 RWEMS paramedics use a newer tablet based eACR system (Tablet) to complete an ACR, which allows the paramedic to complete the ACR in accordance with the *Ambulance Service Documentation Standards*.

19) The Tablet system has mandatory completion fields which require data be entered before the eACR can be closed. One of the mandatory fields is the paramedic's signature field which requires data to be entered into both paramedic signature fields.

20) RWEMS management acknowledged that either the attending or assisting paramedic can enter any signature (or any data format) into the two signature fields, allowing the system to close the report. This process can occur with or without the knowledge of the assisting paramedic.

21) The system permits both paramedics to view the completed eACR in its entirety on one screen before closing the call at which time the data is automatically forwarded to RWEMS, the receiving facility and CPER.

22) For patient refusals the system allows the patient and or witnesses to the refusal to sign their names on the Tablet.

23) The RWEMS Director said the old tablet screen was small so RWEMS paramedics had the patient and witnesses sign a paper based refusal form.

24) The Director said although they encourage the paramedics to use the new Tablet to obtain signatures most paramedics continue to use the paper form.

25) The Manager Training and Quality Programs said the on shift Supervisor ensures any no patient carried calls and the eACR created during their shift has the paper based refusal in the shift log envelope and the Supervisor will manually review the refusal for compliance.

26) The paper refusal form is eventually scanned into the server by light duty paramedics and maintained in the electronic file with the completed eACR.

27) Information from the Zoll cardiac monitor is transferred to the eACR by a Zoll memory card. Any information not transferred by the memory card is scanned from hard copies and added to the eACR record.

28) Once a paramedic has completed the mandatory fields and entered his/her personal password the eACR is closed and the data is automatically sent to the RWEMS server where it is maintained for ninety (90) days. On the 91st day the eACR is automatically sent from the server to archives whether it had been audited by RWEMS or not.

29) If a server failure occurs each Tablet is capable of storing two hundred (200) eACRs in its internal memory, which can be printed out at any of the hospitals in the Region of Waterloo.

30) An attending paramedic can indefinitely maintain an open eACR in his/her own personal electronic mail box. The assisting paramedic may not know that the eACR has not been completed and submitted in accordance with the Documentation Standards.

31) The Documentation Standards Part I General Standard 5 and 6 states all ACRs shall be completed prior to the end of the shift or work period during which the documented event occurred and where the paramedic responsible for its completion is unable to complete the ACR due to injury or illness the service manager or designate will ensure the ACR is completed within 24 hours of the event required to be documented.

32) The Manager Training and Quality Programs said every twenty-four (24) hours the Tablet database system scans all paramedic personal mail boxes for incomplete eACRs.

33) Where an incomplete eACR is found the system automatically sends an email notification to the paramedic's mail box. The notification reminds the paramedic of the Documentation Standard requirement to complete and submit the form within 24 hours.

34) The Manager Training and Quality Programs said the system can only send the completion reminder to the mail box of the paramedic who created the eACR and acknowledged that the eACRs author can forward the eACR to his/her partners' inbox for completion /confirmation of material or signature but the assisting paramedic would not receive the incomplete email notification.

35) The Manager Training and Quality Programs acknowledged that this can cause problems as the initiating paramedic may be off duty for an extended time and not accessing their mail box and the assisting paramedic would be unaware there is an open incomplete document.

36) During her interview the RWEMS QA IT support staff member said the system could send the reminders to both paramedics involved with the ambulance call but the Manager Training and Quality Programs directed this was not to be done.

37) The Manager Training and Quality Programs disagreed with this statement saying he was told by the IT staff member that sending a notification to both paramedics was not possible.

38) The Manager Training and Quality Programs said the system provides him with a daily report showing the names of the paramedics with outstanding eACRs in their in boxes and the length of time the eACRs have been outstanding.

39) The Manager Training and Quality Programs said he receives an automatic notification if a paramedic has not completed an eACR in seven days at which time he

personally sends them direction to complete the eACR. He said the process is dependant on his and the paramedics schedule.

40) Every 24 hours after the initial notification, further automatic notification e-mails with wording outlining increased urgency to ensure compliance are sent to the mail box of the creating paramedic.

41) The Manager Training and Quality Programs acknowledged this system does not ensure RWEMS is meeting time compliance with the Documentation Standards.

42) RWEMS management acknowledged they are unaware of any missing eACRs until they receive ARIS Direct Data Access Service (ADDIS) data from Cambridge CACC. RWEMS management asserted that the current ADDIS data is not always reliable or accurate.

43) RWEMS Policy Section 5 Policy # 12 entitled Integrity of the Ambulance Call Report (ACR) Process dated September 1, 2000 and last revised on February 4, 2010 outlines the process to audit and address any concerns identified during an audit of an eACR.

44) RWEMS Policy Section 5 Policy # 12 provides direction and process for the use of the EMS Pro eACR system, which RWEMS used prior to January 16, 2012. The RWEMS Director acknowledged this policy has not been updated to reflect the new process for auditing the eACR created on the new Tablet system.

45) RWEMS Policy Section 5 Policy # 12 states RWEMS is responsible for auditing all:

- CTAS 1 and Code 73 calls and to ensure Incident Reports have been completed as required
- Code 72 calls (no patient carried, patient refusal) for completion
- Return Code 1 and 2 calls for completion
- Return Code 3 and 4 calls for completion and compliance with BLS and ALS Standards.

46) The Manager Training and Quality Programs acknowledged that although the QA policy indicates all calls will be audited; Code 72 (patient refused) and return Code 1 and 2 calls are rarely audited due to a high call volume, limited light duty staff and time constraints.

47) The Manager Training and Quality Programs said he could not say why Section 5 Policy # 12 only requires the auditors to ensure Code 1 and 2 call priorities are reviewed for completion but due to time and staffing constraints he said those priorities were seldom audited.

48) Prior to January 15, 2012 CPER requested RWEMS to sort their completed eACRs into specific call type categories (VSA, completion of delegated medical acts etc.) for them to audit.

49) CPER would then electronically access only those specific call categories and complete an audit based on the percentages contained in the agreement using a CEPR specific audit tool.

50) According to CPER prior to January 15, 2012 CPER had no access to all RWEMS eACRs.

51) As of January 15, 2012 all closed eACRs are immediately electronically sent as PDF files to the receiving facility and CPER.

52) CPER manually sorts the eACRs into calls identified as Vital Signs Absent (VSA) and those where ALS procedures were documented as having been performed as part of the procedures and treatments provided by the paramedics.

53) The RWEMS Director said it was his understanding that CPER would audit all calls to ensure the documented ALS interventions were performed consistent with the ALS Standards and to identify those calls where there were omissions in ALS care.

54) The CPER Regional Program Director said CPER auditors do not specifically audit for BLS or Documentation Standards issues and acknowledged their audit process does not identify omissions where ALS procedures appear to have been warranted but not documented as being done.

55) According to RWEMS Policy #12 the eACR audit process is performed daily by RWEMS light duty staff auditing closed return Code 1-4 calls and, where time permits, Code 7 calls for completeness and accuracy.

56) RWEMS light duty Advanced Care Paramedics (ACP) can audit any call while Primary Care Paramedics (PCP) only audit calls involving care provided at the BLS level or to the certification level of the auditing paramedic.

57) The Manager Training and Quality Programs said the auditing process is dependant on the availability of light duty staff. He said historically RWEMS has up to ten percent (10%) of their staff on modified duties at any given time and with numerous maternity leaves the QA department often has auditors available for months at a time.

58) The RWEMS Director said although it is not an ideal process to only use modified staff to audit eACRs, other similar sized certified ambulance service operators have told him paid auditors often quit due to the monotony of the process.

59) RWEMS Operations Professional Practice Supervisor (ACP 43637), who was responsible for the audit process said he personally provides approximately three (3) hours of training to all new and returning light duty paramedics. He said half this time is committed to teaching new auditors how to use the electronic audit system tool.

60) During his interview Operations Professional Practice Supervisor 43637 said the audit training focuses on the accurate completion of the eACRs and on BLS patient care issues. He said the training focuses on these issues as ALS issues are generally the responsibility of CPER.

61) Operations Professional Practice Supervisor 43637 said he relies on the auditing paramedic's personal knowledge and understanding of the requirements of the BLS/ALS and Documentation Standards to audit the eACRs and acknowledged RWEMS does not have a system to audit the auditors.

62) RWEMS provides all light duty paramedics assigned to audit duties with a document entitled tabletPCR audit process Light Duty Staff Manual (LDM).

63) The LDM provides the auditing paramedic with the information contained in Part IV of the Documentation Standards but contains no reference to the *Ambulance Call Report Completion Manual* and the requirements from the manual as to how to complete an ACR.

64) The LDM provides the reader the purpose of the QA process in relation to RWEMS obligations per the BLS Standards and identifies the following top 5 BLS/ALS issues:

- walking the patient
- who is responsible for the patient (who goes in the back)
- vital signs
- provision of oxygen
- not having the necessary equipment at the patient's side

65) Operations Professional Practice Supervisor 43637 said they have identified two (2) major contravention trends through the audit process that continue to exist, those being providing inaccurate or no mileages and walking the patient.

66) Operations Professional Practice Supervisor 43637 said although RWEMS has used training initiatives to address the two issues, patients continue to be walked without justification, and mileages continue to be documented incorrectly.

67) The Manager Training and Quality Programs said at the beginning of the shift the QA staff will tell the auditing paramedic which calls are to be audited on any given day, starting with return priority 4 calls.

68) The Manager Training and Quality Programs said an auditor can select any call from the Code priority mail box to audit which could include their own or a form created by any paramedic they choose.

69) The Manager Training and Quality Programs acknowledged the process is not truly random and can lead to specific paramedics being targeted or friends/partners auditing friends/partners calls.

70) Once an audit has been completed the audit form is either routed by the auditor to the server as being completed with no identified concerns or routed to the Operations Professional Practice Supervisor for follow up on identified issues.

71) The Documentation Standards states in part that the patient care provider who has assessed and or has rendered patient care is responsible for completing the patient care documentation for the person whom he or she assessed or to whom care was provided.

72) The Manager Training and Quality Programs acknowledged their audits had not identified the consistent contravention of the Documentation Standards being ACPs who are partnered with a PCP not documenting they had completed the primary patient assessment, as required by the ALS Standards. He acknowledged he was not aware of this requirement.

73) The Manager Training and Quality Programs said RWEMS ACPs believe if there is an initial assessment documented on the eACR by the PCP then it was assumed the ACP had performed an assessment and determined the PCP could provide the necessary patient care.

74) RWEMS Policy Section 5 Policy # 12 states the Manager Training and Quality Programs in conjunction with the Operations Professional Practice Supervisors will follow up on any outstanding issues the auditors identify through their audits.

75) During his interview the Manager Training and Quality Programs said although directly responsible for the QA program his primary function is the control and auditing of RWEMS paramedics administration of restricted drugs. He said the Operations Professional Practice Supervisors are responsible for addressing any audit concerns in accordance with their QA policy and consult with him when necessary.

76) RWEMS senior management provided the Operations Professional Practice Supervisors with a document entitled *tabletPCR Audit Process QA Staff Manual* (QA Manual) that describes the auditing tool and the process the Operations Professional Practice Supervisors will follow to address the peer auditors identified concerns.

77) The QA Manual states if the QA management person (Operations Professional Practice Supervisors) agrees with the comments made by the peer auditor than he/she can add their own comments about what action is required from the paramedic and forward the audit to the creating paramedic for action.

78) The Manager Training and Quality Programs acknowledged that the assisting paramedic who signed the eACR is not made aware of any identified issues, the request to address them or any addendum made to the eACR by the attending paramedic.

79) Operations Professional Practice Supervisor 43637 said he can provide the paramedic who created the eACR several levels of access to the original eACR to make changes but in almost all cases the paramedic can only add an addendum to the eACR but not make any changes to the original.

80) The QA Manual states once the call has been returned and corrected to the satisfaction of the QA staff member the call is to be submitted to archives.

81) The RWEMS Director said the wording in the QA Manual was inaccurate as the attending paramedic is not permitted to change anything on the original eACR but can only add an addendum, which is tracked in the Server and can be provided with any copy of a specifically requested eACR.

82) The Manager Training and Quality Programs acknowledged that there could be times when changes made to the original eACR by RWEMS management (such as adding patient names and information received after the call has been completed) may not necessarily be known to someone receiving an eACR for an investigation.

83) According to Policy #12 the Manager Training and Quality Programs and the Operations Professional Practice Supervisors will ensure staff responds to requests in a timely manner.

84) The Manager Training and Quality Programs said there is no set time for a paramedic to respond to correction requests as it is dependant on the paramedics schedule and the schedule and work load of the Operations Professional Practice Supervisors.

85) Once a paramedic has provided a satisfactory response to the inquiry the Operations Professional Practice Supervisor sends the eACR, with any addendums, to archives as completed.

86) Operations Professional Practice Supervisor 43637 said he maintains a data base of the eACRs that require clarification and the responses received.

87) Operations Professional Practice Supervisor 43637 said in cases where an audit identified significant patient care issues he will personally interview the subject paramedics and obtain Incident Reports (IR).

88) Operations Professional Practice Supervisor 43637 said the usual outcomes of his reviews are remedial education.

89) Operations Professional Practice Supervisor 43637 and the Manager Training and Quality Programs said they could not recall any specific audit that identified a significant BLS Standard issue which required management intervention.

90) All eACRs and records are maintained in the server for five (5) years plus the current year, which is consistent with Part 1 (2) of the *Documentation Standards*.

91) During a meeting with the investigators on December 20, 2012 the Director acknowledged that there were identified concerns with the RWEMS QA system however no changes were anticipated until the investigation report was released, which the Director assumed would hold recommendations, before RWEMS management addresses the concerns and shortcomings outlined in the report.

NOTE:

RWEMS provided audit documentation indicating they had performed a QA Audit of 127 or 23% of the ACRs analyzed for this investigation.

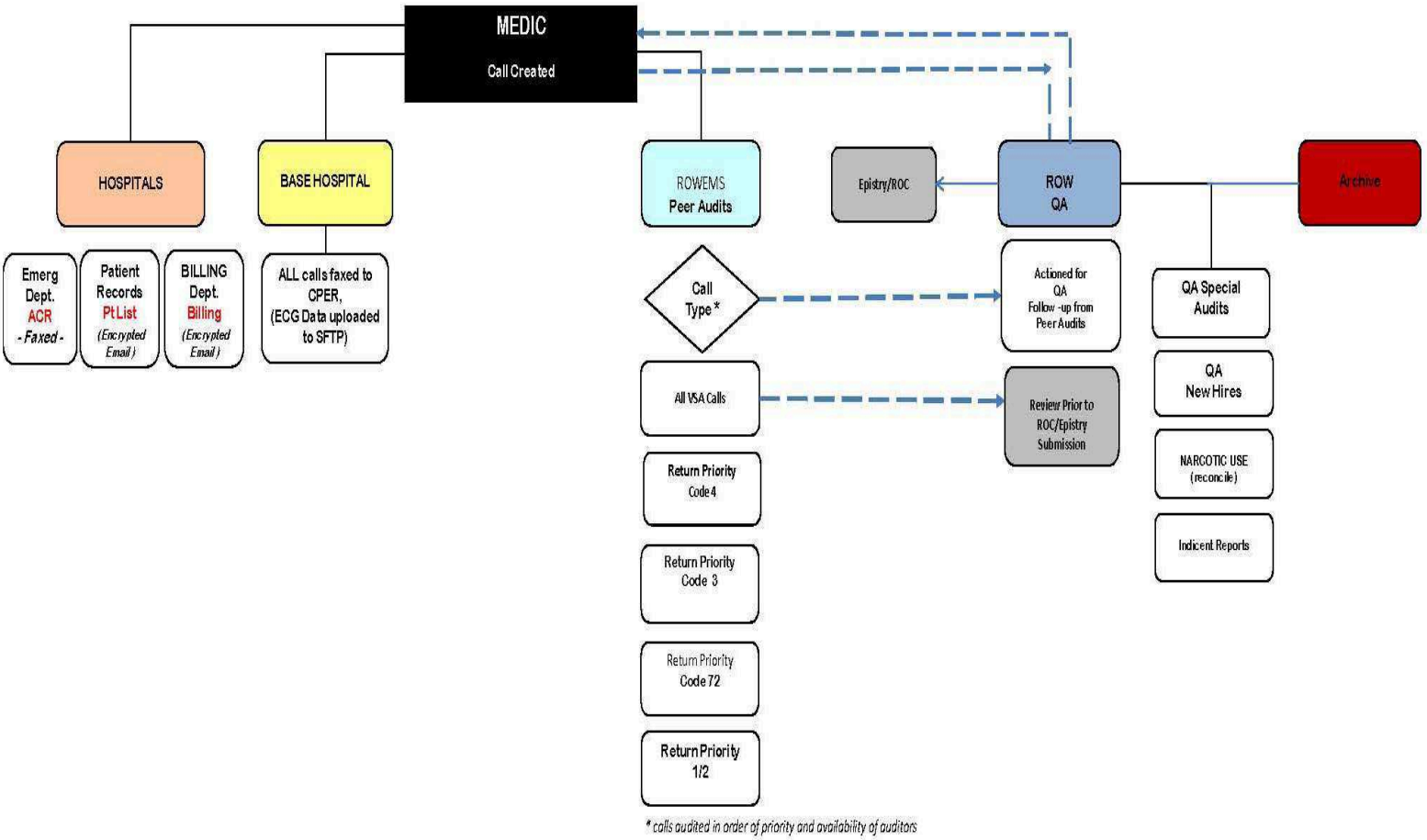
a. The documentation indicated that 113 calls, or 88.98%, had no issues.

b. The documentation indicated that 12 calls, or 9.45%, had some issues with the information documented on the ACRs.

The following schematic was provided by RWEMS outlining their QA process:

Region of Waterloo - Emergency Medical Services
TabletPCR Call Routing/Audits

01/02/2012 (Revised 10/25/2012)



Hamilton Health Sciences Center for Paramedic Education and Research (CPER)

92) CPER is a party to a signed Memorandum of Understanding (MOU) with RWEMS to provide a QA process and certification of RWEMS paramedics as well as being a party to a signed Performance Agreement (PA) with the Ministry outlining the roles and responsibilities of a Base Hospital program.

93) The PA requires CPER to perform ACR audits based on three categories, those being:

1. a selection of calls where medical directives/protocols have been performed
2. a selection of calls where higher risk is associated with the performance of a skill, i.e. intubation and serious trauma
3. a selection of cancelled calls

94) The PA also requires CPER to ensure that each paramedic in the host hospitals area has a minimum of five (5) chart audits where a controlled act was performed.

95) The CPER Regional Program Director said as they have no access to RWEMS raw data they have no ability to determine if they have audited each RWEMS paramedic at least five times where a delegated medical act had been performed as required under the PA.

96) The Regional Program Director acknowledged that they do have a list of all of the RWEMS paramedics and through a search process they could manually determine if each paramedic has had the required audit numbers. He said due to their current audit system they are not performing that search and as such they can not confirm that they are in compliance with the PA.

97) According to the Regional Program Director CPER is obligated under the PA to audit a selection of certain call types.

- 100% of VSA calls
- 100% of calls where ALS interventions (high risk low frequency i.e. intubation, needle thoroacotomy, etc.) were documented as being used
- 50% of calls where delegated medical acts (DMA) were documented as being used
- 10% of no patient carried calls
- 5-10% of calls where only BLS interventions were documented as being used.

98) Prior to July 20, 2012 CPER and RWEMS operated under the conditions of an MOU that had been in place with the previous Cambridge Base Hospital Program.

99) Under that agreement CPER audited all ACRs where the patient was VSA and a percentage of calls where ALS interventions were documented as having been performed.

100) Per a new MOU with RWEMS, signed on July 20, 2012, CPER is contracted *to monitor the delivery of patient care as per the ALS Patient Care Standards and other*

patient activities through statistical process control, chart audits, observational ride outs, outcome studies and error and near miss reporting.

101) RWEMS has not contracted CPER to audit calls involving only BLS interventions.

102) The Regional Program Director said due to limited human resources CPER does not conduct observational ride outs.

103) As of January 16, 2012 all RWEMS closed eACRs are immediately sent electronically to CPER in PDF format.

104) CPER manually sorts all of the RWEMS eACRs into specific call type categories (see finding 134) for auditing by their peer auditor system.

105) The Regional Program Director said they attempt to audit all call categories within two (2) to three (3) weeks of the date the eACR is received.

106) The Regional Program Director said VSA calls are audited within the expected time frames but the code summary (cardiac report) is usually received one (1) month after the eACR is received so the audited eACR is not archived until the code summary is received and evaluated.

107) The Regional Program Director said the auditor's main focus is towards the documented provision of ALS and delegated medical acts.

108) The Regional Program Director said CPER auditors will evaluate calls in the following categories

- No issues
- Minor/major issue
- Omissions/commission

109) CPER has assigned two (2) of the fifteen (15) paramedic peer auditors not employed by RWEMS to audit RWEMS eACRs. These auditors are scheduled at thirty (30) hours per month but CPER can add extra staff should the workload increase.

110) The Regional Program Director said in accordance with their MOU any BLS issues identified through the audit process are forwarded to RWEMS to address.

111) The Regional Program Director acknowledged that due to their focus on only documented ALS / Delegated Medical Acts (DMA), omissions in the provision of required ALS procedures would not be found unless they become part of the random 5% of calls are audited for BLS issues.

112) RWEMS eACRs found to have documented ALS/DMA issues are forwarded to the CPER Senior Auditors for further review and as necessary for them to action.

113) If the issue is categorized as minor in nature (patient care/documentation) the paramedic is forwarded a copy of the eACR with comments on the audit form for clarification/response from the paramedic.

114) CPER allows the paramedic two (2) weeks to respond.

115) If the paramedic has not responded within two weeks a second email is sent to the paramedic and copied to RWEMS management to verify if the paramedic may be unable to respond.

116) If the paramedic does not respond within three (3) weeks of the original notification and there are no reasonable excuses for not responding, CPER deactivates the paramedic until such time as the issue can be resolved. In accordance with the PA RWEMS is notified of the deactivation and once the matter is resolved notice of the reactivation.

117) If the eACR audit identified major/critical omissions/commissions the audit form is forwarded to CPER Senior Auditors who upon review may

1. commence a call review or;
2. Initiate an investigation of the call.

118) The Regional Program Director said a call review consists of a review of the identified concerns not the call in total.

119) The Senior Auditors findings from a call review are reviewed by the CPER investigation committee, who meet once a week, and although the call review does not generate a formal report the Regional Program Director said the usual outcome is some form of remediation.

120) The Regional Program Director said RWEMS is copied on all emails pertaining to a call review.

121) The Regional Program Director said an investigation consists of a formal review of the complete call, not just the identified concerns, as well as conducting interviews with the paramedics, review of CACC audio and interviews of any witnesses are undertaken. The CPER Medical Director is involved with an investigation and a formal report is created along with recommendations.

122) The Regional Program Director said RWEMS is formally notified of any investigation and the outcome.

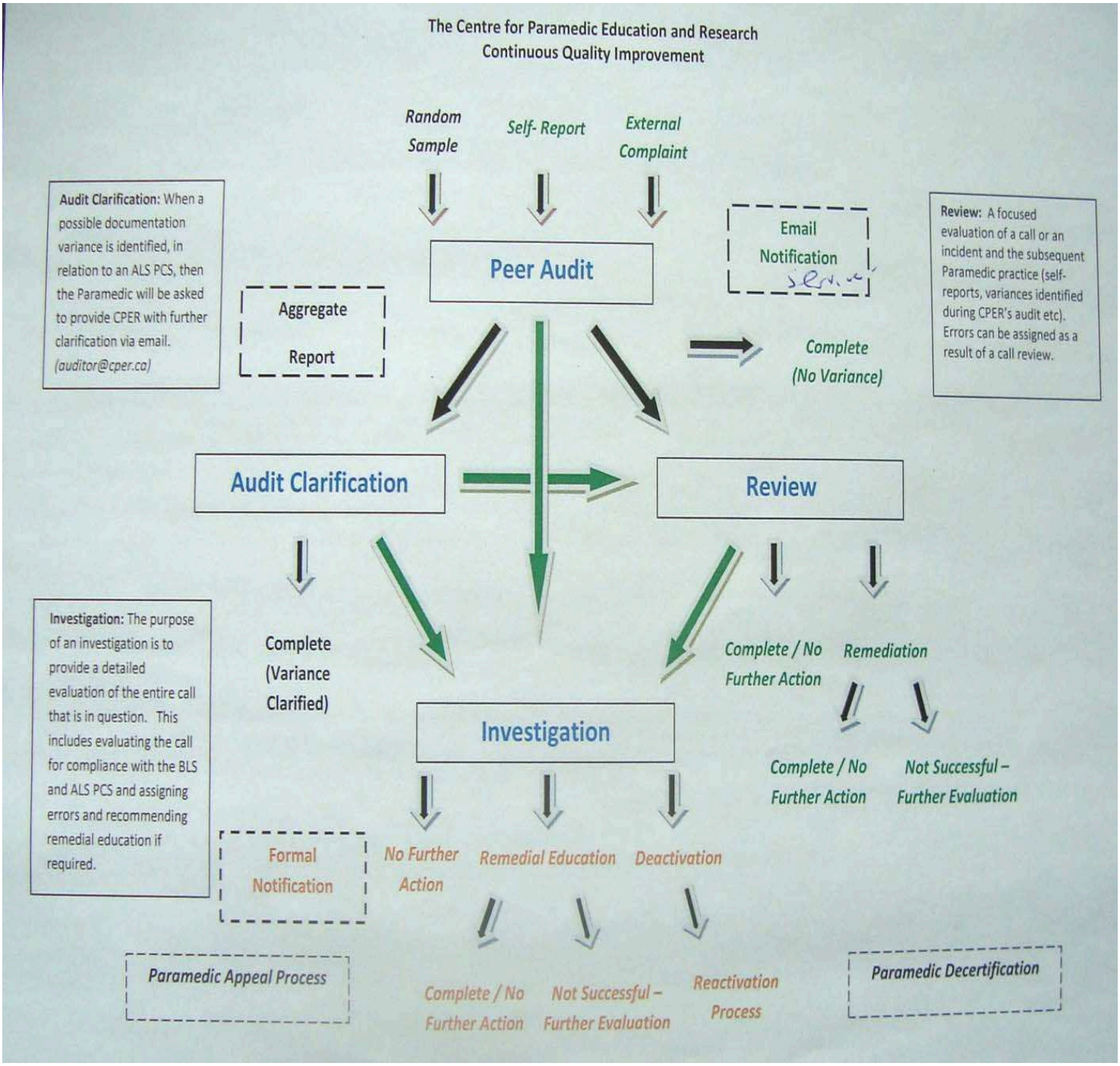
123) The Regional Program Director said as they do not have access to the RWEMS raw data it is difficult for them to specifically identify any trends in patient care unless their auditors subjectively see a trend and report it.

124) The Regional Program Director said CPER also relies upon paramedics self reporting errors or omissions through a confidential email system. All self reported issues are shared with RWEMS management within forty-eight (48) hours.

125) CPER was asked for audit results for ten (10) RWEMS eACRS reviewed during this investigation, all involving ALS interventions or omissions.

126) Of the ten (10) eACRs only three (3) had been audited, none of which identified any concerns. These findings were contrary to the results of this investigation's ACR audits, of which all three (3) identified either ALS contraventions or omissions.

127) The following Chart outlines the CPER QA ACR audit process



APPENDIX D – Use of Emergency Warning Systems

The Automatic Vehicle Locator (AVL) data generated by RWEMS ambulances regarding the use of emergency warning systems, speed and route was compared to information contained on the ACRs was reviewed. This comparison revealed:

NOTE: 562 ACRs were provided by RWEMS and 31 were excluded from this review as no AVL data was available for these ambulance calls, leaving 531 ACRs for the review process.

1) Point (a) under Patient Transport per the Patient Care and Transportation Standard requires that each paramedic shall ensure they follow every direction or instruction issued by a communications officer with respect to the assignment of calls to ambulances or emergency response vehicles.[12]

2) Of the 531[13] ACRs reviewed 76 or 14.31% contained documentation that emergency warning systems were not activated while responding on a Code 4 call.

3) Of the 531 ACRs reviewed 171 or 32.20% contained documentation that emergency warning systems were activated while responding on a Code 4 call. The AVL data identified the emergency warning systems were not activated.

4) Of the 531 ACRs reviewed 51 or 9.60% contained documentation that the emergency warning systems were used while responding to a Code 4 call. Of these 51 responses the AVL date identified the emergency warning systems were used either partially or were delayed in their activation.

5) Of the 531 ACRs reviewed 313 or 58.94% were not documented accurately regarding the use emergency warning systems or response priority.

6) The BLS Standards Section 1 General Standards of Care is applicable at all times when a paramedic is providing patient care while on duty.[14]

7) Point 2 Part A of the General Standards of Care states in part that the paramedic will use an appropriate route and speed to respond to the scene, adhere to approved driving policies and practices, operate the ambulance and utilize ambulance emergency warning devices in a responsible manner.[15]

8) A study published in 2001 by Ho and Lindquist from the Hennepin County Medical Centre in Minneapolis found that the use of emergency warning systems in rural settings saved significant time when travelling to a call.[16]

9) A study published in 2000 by Brown, Whitney, Hunt, Addario and Hogue from the State University of New York Health Sciences Centre at Syracuse found that the use

[12] Ambulance Service Patient Care and Transportation Standards Patient Transport
[13] 31 of the ACRs reviewed were excluded as there was no AVL data available.
[14] BLS Standards General Standards of Care Conditions
[15] BLS Standards General Standards of Care Part A Personal and Patient Safety and Protection
[16] Prehosp Emerg Care 2001 Apr-Jun; 5(2);159-62

of emergency warning systems in an urban setting reduced ambulance response time by an average of one (1) minute and fort-six (46) seconds.[17]

10) RWEMS Policy 4.3 Point 8 states all ambulances travelling on Code 4 calls shall use appropriate audible and visual warning systems en route. This policy further states it is the Region's position and expectation that the emergency lighting system will be used whenever the vehicle is being moved on a Code 4 basis, whether to a scene or to hospital, and the siren is to be activated whenever there is an additional need to move traffic or when crossing against a red light.[18]

11) Of the 531 ACRs reviewed 15, or 2.82%, contained documentation that the paramedics were responding on a Code 3 (prompt) basis when in fact they had been instructed by a communications officer that they were responding on a Code 4 call.

12) The management of RWEMS stated that up until this investigation it was not part of their regular Quality Assurance Program (QA) to determine if ACRs indicating emergency warning systems were activated would be verified by conducting an analysis of the AVL data.

13) Sixteen (16) certified ambulance services were polled to determine if a) they have policy pertaining to the use of emergency warning systems; b) do they as part of a regular QA audit verify documented use of emergency warning systems by comparing that to AVL data and c) have they encountered a similar situation encountered by RWEMS. The results are as follows:

- Fifteen (94%) of the services have a formal policy regarding use of emergency warning systems.
- 100% of the services did not as a matter of routine verify documented use of emergency warning systems with AVL data.
- 100% of the services reported they would verify use of emergency warning systems with AVL data when conducting investigations of complaints.
- Two (12%) of the services have the ability to view real time data which would allow for the monitoring of the use of emergency warning systems when a staff member is available to perform such monitoring.
- One (0.06%) service has a system in place where an automatic email is sent when an ambulance exceeds the permitted speed policy which allows for immediate verification of the reason for the speeding and the use of emergency warning systems.
- One (0.06%) of the services is in the process of acquiring new AVL technology which will include the ability to better track the use of emergency warning systems as required by policy.

[17] Prehosp Emerrg Care 2000 Jan-Mar;4(1);70-4
[R]Region of Waterloo Public Health Emergency Medical Services Policy & Procedure Manual Section 4 Policy 3 Point 8

- Two (12%) of the services will, as a result of this poll, change their QA process to verify documented use of emergency warning systems with AVL data.

- None (100%) of the services reported having similar systemic issues of not using emergency warning systems as experienced by RWEMS.

14) Of the 531 ACRs analyzed, 447 or 84.18% indicated that the response time to the scene appeared appropriate.

15) Of the 531 ACRs analyzed 84 or 15.82% indicated that the response time to the scene was not appropriate.